

IN THE CLAIMS

Please amend the claims as follows.

Please cancel claims 1-46 without prejudice. For the Examiner's convenience, a list of all claims is included below.

1-46 (Canceled)

47. (New) A device to perform a memory file management, comprising:

a microcontroller to receive a request to read a file stored in a memory or to write a file into a memory, and to build a lookup table ("LUT") for the memory, wherein the memory has a fragmented array of files across a single partition;

a processor coupled to the microcontroller to store the LUT at least temporarily, wherein the processor is to use the LUT to create an index table and to store the index table in the memory, wherein the index table specifies a plurality of addresses for the file in the memory.

48. (New) The device of claim 47, wherein the memory is a flash memory.

49. (New) The device of claim 48, wherein the flash memory is a SmartMedia card.

50. (New) The device of claim 49, wherein the SmartMedia card includes a flash-memory chip, a plane electrode, and bonding wires, which are embedded in a resin using an over-molded thin package technique.

51. (New) The device of claim 47 further comprising a keypad coupled to the microcontroller.
52. (New) The device of claim 47, wherein the microcontroller and the processor are incorporated into a portable package.
53. (New) The device of claim 47, wherein the microcontroller is 8051 microcontroller.
54. (New) The device of claim 47, wherein the microcontroller and the processor are included into a portable MP3 player.
55. (New) The device of claim 47, wherein a file is an MP3 file, an WMA file, an AAC file, a CD audio format file, or any combination thereof.
56. (New) The device of claim 47, wherein the processor and the microcontroller are included into a personal computer system.
57. (New) The device of claim 47, wherein the index table in the memory includes a table of records readable by the processor.
58. (New) The device of claim 47, wherein the microcontroller to build a LUT is to parse a file allocation table of the memory to locate all clusters associated with all files located in the memory.

59. (New) The device of claim 47, wherein the microcontroller to build the LUT is to convert file clusters associated with the file into logical sectors.

60. (New) The device of claim 59, wherein the microcontroller to build the LUT is to map the logical sectors of the file to respective physical sectors.

61. (New) The device of claim 47, wherein the microcontroller is to provide a pointer into the index table data of the file.

62. (New) The device of claim 61, wherein the processor is to access data for the file from the memory using the pointer into the index table data of the file.

63. (New) The device of claim 47, wherein the microcontroller to write the file is further to search a file allocation table to find an empty space within the memory to store the file.

64. (New) The device of claim 47, wherein the microcontroller to write the file is further to allocate empty clusters within the memory for the file.

65. (New) The device of claim 47, wherein the microcontroller to write the file is further to store the file in empty clusters in the memory.

66. (New) The device of claim 47, wherein the microcontroller to write the file further is to include the file written into the memory into a directory tree.

67. (New) A device to read and write files in a flash memory, comprising:

a microcontroller to receive a request to read a file stored in a flash memory or to write a file into a flash memory, and to build a lookup table ("LUT") for the flash memory, wherein the flash memory has a fragmented array of files across a single partition;

a digital signal processor ("DSP") coupled to the microcontroller to store the LUT at least temporarily, wherein the DSP is to use the LUT to create an index table and to store the index table in the flash memory, wherein the index table specifies physical addresses for each file in the flash memory.

68. (New) The device of claim 67, wherein the microcontroller and the DSP are incorporated into a portable package.

69. (New) The device of claim 67, wherein the flash memory is a SmartMedia card.

70. (New) The device of claim 69, wherein the SmartMedia card includes a flash-memory chip, a plane electrode, and bonding wires, which are embedded in a resin using an over-molded thin package technique.

71. (New) The device of claim 67, wherein the microcontroller is 8051 microcontroller.

72. (New) The device of claim 67, wherein the portable package is an MP3 player.

73. (New) The device of claim 67, wherein a file is an MP3 file, an WMA file, an AAC file, a CD audio format file, or any combination thereof.

74. (New) The device of claim 67, wherein the DSP and the microcontroller are included into a personal computer device.

75. (New) The device of claim 67, wherein the microcontroller to build a LUT is to parse a file allocation table of the flash memory to locate all clusters associated with all files located on the flash memory.

76. (New) The device of claim 67, wherein the microcontroller to build the LUT is to convert file clusters associated with each file into logical sectors.

77. (New) The device of claim 67, wherein the microcontroller to build the LUT is to map the logical sectors of the file to respective physical sectors.

78. (New) The device of claim 67, wherein the microcontroller is further to provide a pointer into the index table data of a file.

79. (New) The device of claim 78, wherein the DSP is further to access data for the file from the flash memory using the pointer into the index table data of the file.

80. (New) The device of claim 67, wherein the microcontroller to write the file is further to search a file allocation table to find an empty space within the memory to store the file.

81. (New) The device of claim 63, wherein the microcontroller to write the file is further to allocate empty clusters within the memory for the file.

82. (New) The device of claim 67, wherein the microcontroller to write the file is further to store the file in empty clusters in the memory.

83. (New) The device of claim 67, wherein the microcontroller to write the file to the memory is further to include the file written into the memory into a directory tree.